

Work Order ID 71433

Monday, July 04, 2011 11:38:48 AM



Page 1

Item ID: D350-636-016

Accept



Setup Start



Revision ID:

Stop



Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 7/5/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 7/19/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: MF

Date: 11-07-04

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3492	C								
D4168	A								
IIN-D350-636	H								

100

0.00



DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Photocopy blue file and type labels per PPP D350-636-016 CHG 002

N/A

B71441

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

110



Skidtubes

Skidtubes

0.00

Memo

0.00

1- Pick D2600-3 Bent

2- Deburr FWD and AFT ends, remove bending marks. Scribe batch# inside AFT end per dwg D4168

3- Drill pilot holes for blade fitting bolt holes using DT8983. Open to 0.500", deburr, section R-R

4- Locate DT8329 off of blade fitting bolt holes and drill pilot holes for blade fitting, section R-R

5- Drill fwd step holes using DT9616. Ensure proper positioning. All holes as per dwg D4168 Detail J

6- Drill pilot holes as per Dwg D4168 sheet 5 (D4168-2 details). Drill using drill Jig DT8150 & DT8863A for first side only DT8863B for second side (detail K)

7- Clecko DT8863B on second side of tube and drill pilot holes for detail K.
SECOND SIDE

8-Drill most FWD wearplate hole using DT9678 locating of 66.54" hole

9-Open up holes of Detail J to 0.297" (total of 2 holes per side) +.201 iplace per side and open holes of detail M section R-R to 0.500" as per dwg D4168

10-Weld D2744 Cap as per Dwg D4168 and QSI 004. Fill grooves in bend left from bending as per QSI 004

A/R Aluminum Rod batch: ☐

M117884

BE 4/6/29

BB

11/08/29

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Run Start

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

11-Grind welds flush as per Dwg D4168

DL 11/08/31

120

QC10- Inspect visual per QSI004- ground welds

0.00



QC

Memo

0.00

Quality Control

Sulost/31

130

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

Sulost/31

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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140 HandFinish Hand Finishing	Chemical Conversion Coat per QSI005 4.1 Memo	0.00 0.00				<u>1</u>			<u>De</u> <u>11/02/31</u>
150 QC Quality Control	QC3- Inspect Part Finish Memo	0.00 0.00				<u>1</u>	<u>8</u>	<u>02/08/31</u>	

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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start



Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

160



Skidtubes

Skidtubes

Skidtubes

0.00

Memo

0.00

1-Open up holes of Detail L and ground handling to 0.625" (total of 8 holes per side)
as per dwg D4168.

2-Open up holes of Detail K to 0.750" (total of 4 holes per side)
as per dwg D4168.

3- Open float hole to 0.500" (4 per side)

4-Chamfer holes of Detail K,L, ground handling and float holes per dwg D4168
(welding instructions on sheet 9)

5-Deburr and blow out all chips from inside of tube

6- Prepare tube for welding, remove alodine as required.

7-Bond web D2739 in place as per QSI 015

A/R ☐ ☐ ☐ Sikaflex-291

batch: 1118328

exp. date: 12/04/05

8- Weld spacers D3490-1, D3490-3 and D2743 as per dwg D4168 & QSI004
(welding instructions on sheet 8)

A/R ☐ ☐ ☐ Aluminum Rod

batch: 1118736

9- At section AP-AP drill out x-bolt spacer to 0.404"

10-Grind welds flush as per Dwg D4168

DL 11/09/14

BE 11/09/14
DL 11/09/14

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Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

11-Spot face ground handling holes section (total of 4 places per side) as per
dwg D4168

12- C'bore section CH-CH

13- Deburr holes

170



QC

Quality Control

QC10- Inspect visual per QSI004- ground welds 0.00

Memo

0.00

S 11/09/15

B 11/09/15

180



QC

Quality Control

QC5- Inspect part completeness to step on W/O 0.00

Memo

0.00

S 11/09/15

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Customer:

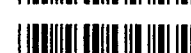
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

190

Pressure Wash per QSI005 4.3

0.00



HandFinish

Memo

0.00

Hand Finishing

Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.

IX Ø M / 11/04/19

200

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00



Powdercoat

Memo

0.00

Powder Coating

START TIME: 11:45

OVEN TEMPERATURE: 320 °F

FINISH TIME: 12:15

IX Ø M / 11/04/19

210

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

Inspect for foreign object per QSI 024

1 Ø M / 11/04/20

M 118439

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Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
240 	QC5- Inspect part completeness to step on W/O	0.00							
QC Quality Control	Memo	0.00		8 11/09/27					
250 	Pick Kit	0.00							
Packaging Packaging	Memo If making a D350-636-216□ pick kit will only requires: 1 X AN3C37A 1 X AN3C34A 1 X AN3C42A 2 X D3493-1	0.00							11/9/27
260 	QC4- 100% Inspect kits for completeness	0.00							
QC Quality Control	Memo *****ensure antiseize is on AN8C21A bolts*****	0.00		8 11/09/27					

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Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

270

0.00



Packaging

Packaging

Memo

0.00

Identify and pack for shipping as per PPPD350-636-016

Location: _____

PPP rev: _____

PP 71441

11/9/27

280

0.00



QC

QC21- Final Inspection - Work Order Release

Memo

0.00

Quality Control

11/9/30
MF
11-09-28

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Picklist Print

Monday, July 04, 2011 11:38:44 AM

Page 1

Work Order ID: 71433

Parent Item: D350-636-016

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 7/5/2011

Required Date: 7/19/2011

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP rev:A 10.09.28 new issue DD verf:EC
11.04.14 ecn11-553 DD verf:EC

IPP Rev:B

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D3490-1		Manufactured	No			160	Each	97.0000	4	4			
---------	--	--------------	----	--	--	-----	------	---------	---	---	--	--	--



Cross Bolt Spacer

Location	Loc Qty	Loc Code
----------	---------	----------

LG	95	
67773	5	
69510	30	
69823	60	
LG001	2	
62450	2	

D3490-3		Manufactured	No			160	Each	77.0000	4	4			
---------	--	--------------	----	--	--	-----	------	---------	---	---	--	--	--



Cross Bolt Spacer

Location	Loc Qty	Loc Code
----------	---------	----------

LG	77	
68952	18	
70768	59	

AN3C34A		Purchased	No			230	Each	22.0000	1	1			
---------	--	-----------	----	--	--	-----	------	---------	---	---	--	--	--



BOLT

Location	Loc Qty	Loc Code
----------	---------	----------

ST352	20	
117514	20	
ST353	2	
116003	2	

BE 11/09/14

BE 11/09/14

M116075 11/9/27

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Start Date: 7/5/2011

Required Date: 7/19/2011

Start Qty: 1.00

Required Qty: 1.00

AN3C36A

Purchased

No

230

Each

183.0000

4

4



ll 11/09/20

BOLT

Location

Loc Qty

Loc Code

FG	14	
101261	4	M118757
116590	10	<i>x2</i>
FP-B	31	
111925	31	
ST303	8	
116590	8	
ST353	130	
117125	30	
117872	50	
118191	50	

AN3C37A

Purchased

No

230

Each

187.0000

1

1



11/18/18 11/19/27

BOLT

Location

Loc Qty

Loc Code

ST353	178	
116874	11	
117010	2	
117763	25	
117885	60	
118159	80	
ST354	9	
117343	9	

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Start Date: 7/5/2011

Required Date: 7/19/2011

Start Qty: 1.00

Required Qty: 1.00

AN3C42A

Purchased No

230

Each

61.0000

1

1



BOLT

Location

Loc Qty

Loc Code

ST354

61

106176

21

117763

20

118131

20

D3488-042

Manufactured No

230

Each

16.0000

1

1



Blade Fitting Assembly, RH

Location

Loc Qty

Loc Code

FP008

16

62003

2

65099

3

68109

11

D3492-1

Manufactured No

230

Each

132.0000

8

8



Plug

D3492-041 / B70185

Location

Loc Qty

Loc Code

FP

132

69531

8

69819

52

70689

72

D3492-3

Manufactured No

230

Each

124.0000

8

8



Plug

Location

Loc Qty

Loc Code

FP

124

69822

44

70692

80

B71838

Monday, July 04, 2011 11:38:45 AM

Shop Packet Print

Page 3

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Start Date: 7/5/2011

Required Date: 7/19/2011

Start Qty: 1.00

Required Qty: 1.00

D3873-1 Manufactured No

230 Each

115.0000

7

7



1104/20

Bushing

Location

Loc Qty

Loc Code

ST084

51

B71837

Y7

68247

51

ST088

64

64760

1

70690

63

D4154-041 Manufactured No

230 Each

0.0000

1

1



B71412



(x1) 1109/20

Wearplate Assembly

D4170-1 Manufactured No

230 Each

19.0000

4

4



B71844 1109/14

Bushing

Location

Loc Qty

Loc Code

LG

15

61581

5

68225

10

LG002

4

65912

4

D4171-1 Manufactured No

230 Each

20.0000

1

1



1109/20

Bushing

Location

Loc Qty

Loc Code

ST135

20

69037

20

X1

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Work Order ID: 71433

Parent Item: D350-636-016

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 7/5/2011

Required Date: 7/19/2011

Start Qty: 1.00

Required Qty: 1.00

MS21043-3 Purchased No

230 Each

1,153.000

5

54



11/09/20

Nut

Location

Loc Qty

Loc Code

FG
103691
ST301
112314
118077

72
72
1081
89
992

M118614

X4

NAS1149C0363R Purchased No

230 Each

4,368.000

9

87



11/09/20

Washer

Location

Loc Qty

Loc Code

ST297
114742

4368
4368

X7

NAS1515H3L Purchased No

230 Each

224.0000

4

4



11/09/20

WASHER

Location

Loc Qty

Loc Code

FG
102472
ST277
113362

40
40
184
184

M118686

X4

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Shop Packet Print

Page 5

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Monday, July 04, 2011 11:38:45 AM

Page 6

Work Order ID: 71433

Parent Item: D350-636-016

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 7/5/2011

Required Date: 7/19/2011

Start Qty: 1.00

Required Qty: 1.00

NAS1611-010

Purchased No

230

Each

198.0000

8

8



u 11/09/20

O-RING

Location

Loc Qty

Loc Code

FP

96

117460

16

118077

80

FP-A

102

110915

91

115589

11

M118612

x8

NAS1611-013

Purchased No

230

Each

176.0000

8

8



u 11/09/20

O-RING

Location

Loc Qty

Loc Code

FP

171

117291

31

117887

140

FP-A

5

116582

5

M118384

x8

AN960JD816

Purchased No

250

Each

1.0000

2

2



Y NAS1149008635 / M118078



(x2) u 11/09/20

1/2" washer, Alum

Location

Loc Qty

Loc Code

FP-A

1

106043

1

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Monday, July 04, 2011 11:38:45 AM

Page 7

Work Order ID: 71433

Parent Item: D350-636-016

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 7/5/2011

Required Date: 7/19/2011

Start Qty: 1.00

Required Qty: 1.00

D2744

Manufactured No

110

Each

5.0000

1

1



Cap

Location

Loc Qty

Loc Code

LG002

5

62715

1

65086

4

D2600-3-BENT

Manufactured No

110

Each

18.0000

1

1



Extrusion Bent

Location

Loc Qty

Loc Code

LG

18

66875

8

68137

1

70142

9

D2743

Manufactured No

160

Each

163.0000

8

8



Crossbolt Spacer

Location

Loc Qty

Loc Code

LG

105

69818

105

LG001

58

67766

4

68251

54

D2739

Manufactured No

160

Each

5.0000

1

1



350 I Beam

Location

Loc Qty

Loc Code

LG

5

69886

5

20873

BEN 11/08/29
B 70881 x1

1 11/08/26
B 70881

BEN 11/09/14
B 71839 x8

11/09/01

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Page 7

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

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Picklist Print

Monday, July 04, 2011 11:38:45 AM

Page 8

Work Order ID: 71433

Parent Item: D350-636-016

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 7/5/2011

Required Date: 7/19/2011

Start Qty: 1.00

Required Qty: 1.00

ALS4-1032-225

Purchased

No

230

Each

622.0000

4

4



11/09/20

Insert

Location

Loc Qty

Loc Code

ST282

622

1118696

110768

213

11

117717

409

AN8C35A

Purchased

No

230

Each

83.0000

1

1



11/09/20

BOLT

Location

Loc Qty

Loc Code

FP

40

117511

40

11

FP-A

8

115960

1

116874

7

ST345

34

117834

34

ST346

1

114442

0

115188

0

115960

1

AN6C44A

Purchased

No

230

Each

85.0000

4

4



11/09/20

BOLT

Location

Loc Qty

Loc Code

FG

2

1118332

103964

2

11

ST344

83

117763

31

117950

50

118112

2

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Page 8

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Monday, July 04, 2011 11:38:45 AM

Page 9

Work Order ID: 71433

Parent Item: D350-636-016

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 7/5/2011

Required Date: 7/19/2011

Start Qty: 1.00

Required Qty: 1.00

MS21083C8

Purchased No

230

Each

97.0000

1

1



NUT



11/09/20

Location

Loc Qty

Loc Code

FP-B

1

115884

1

ST293

50

118077

50

ST303

46

115884

0

117423

25

117677

21

x1

D3631-1

Manufactured No

230

Each

387.0000

8

8



Washer



11/09/20

Location

Loc Qty

Loc Code

ST072

387

68062

387

Each

0.0000

4

4

AN960C10L

NAS1149C0332

Purchased

No

M118354

x8



washer



11/09/20

D2745

Manufactured No

230

Each

276.0000

8

8



Bushing



11/09/20

Location

Loc Qty

Loc Code

FP-A

276

68248

41

69529

155

69816

80

x8

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Page 9

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Monday, July 04, 2011 11:38:45 AM

Page 10

Work Order ID: 71433

Parent Item: D350-636-016

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 7/5/2011

Required Date: 7/19/2011

Start Qty: 1.00

Required Qty: 1.00

AN960C816L

Purchased No

230

Each

0.0000

1

1



XNAS 1149C0832R / M114915



(v1) M 11/09/20

WASHER

AN3C6A

Purchased No

230

Each

240.0000

4

4



M 11/09/20

BOLT

Location

Loc Qty

Loc Code

FP-A

1

111982

1

ST351

239

111982

2

116419

23

116549

2

116704

12

117619

50

117688

100

117872

50

✓

MS21043-6

Purchased No

230

Each

445.0000

4

4



M 11/09/20

NUT

Location

Loc Qty

Loc Code

FG

20

103693

20

ST301

425

112314

415

117887

10

✓

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Page 10

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Monday, July 04, 2011 11:38:46 AM

Page 11

Work Order ID: 71433

Parent Item: D350-636-016

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 7/5/2011

Required Date: 7/19/2011

Start Qty: 1.00

Required Qty: 1.00

D3493-1



Washer

Manufactured No

250

Each

83.0000

2



[Handwritten signature]

Location

Loc Qty

Loc Code

ST062

83

68253

23

70697

60

2

MS21083C8



NUT

Purchased No

250

Each

97.0000

2



2

11/09/20

Location

Loc Qty

Loc Code

FP-B

1

115884

1

ST293

50

118077

50

ST303

46

115884

0

117423

25

117677

21

x2

AN8C21A



BOLT

Purchased No

250

Each

101.0000

2



2

11/09/20

Location

Loc Qty

Loc Code

ST344

25

117764

25

ST345

76

117562

26

118045

50

x2

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Monday, July 04, 2011 11:38:46 AM

Page 12

Work Order ID: 71433



Parent Item: D350-636-016



Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 7/5/2011

Required Date: 7/19/2011

Start Qty: 1.00

Required Qty: 1.00

D2741

Manufactured No

250

Each

39.0000

1

1



Blade, 350 Skidtube



44 4109120

Location

Loc Qty

Loc Code

ST466

39

63589

9

69133

30

370667

x1

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

QTY -041	QTY -042	QTY -043	QTY -044	PART NUMBER	DESCRIPTION
X				D4168-041	350 SKIDTUBE ASSEMBLY, LH
	X			D4168-042	350 SKIDTUBE ASSEMBLY, RH
		X		D4168-043	350 SKIDTUBE ASSEMBLY, LH
			X	D4168-044	350 SKIDTUBE ASSEMBLY, RH
1	1	1	1	D2739	WEB
8	8	8	8	D2743	SPACER
1	1	1	1	D2744	CAP
8	8	8	8	D2745	BUSHING
1				D3488-041	BLADE FITTING, LH
	1			D3488-042	BLADE FITTING, RH
4	4	4	4	D3490-1	SPACER
4	4			D3490-3	SPACER
		4	4	D3490-5	SPACER
8	8	8	8	D3492-041	PLUG ASSEMBLY
8	8			D3492-043	PLUG ASSEMBLY
		8	8	D3492-045	PLUG ASSEMBLY
8	8	8	8	D3631-1	WASHER
7	7	7	7	D3873-1	BUSHING
1	1	1	1	D4154-041	WEARPLATE ASSEMBLY
1				D4168-1	SKIDTUBE WELDMENT, LH
	1			D4168-2	SKIDTUBE WELDMENT, RH
		1		D4168-3	SKIDTUBE WELDMENT, LH
			1	D4168-4	SKIDTUBE WELDMENT, RH
4	4	4	4	D4170-1	SPACER
1	1	1	1	D4171-1	BUSHING
4	4	4	4	ALS4-1032-225	INSERT
4	4	4	4	AN3C6A	BOLT
1	1	1	1	AN3C34A	BOLT
4	4	4	4	AN3C36A	BOLT
4	4	4	4	AN6C44A	BOLT
1	1	1	1	AN8C35A	BOLT
9	9	9	9	AN960C10	WASHER (OR NAS1149CO363R)
4	4	4	4	AN960C10L	WASHER (OR NAS1149CO332R)
1	1	1	1	AN960C816L	WASHER (OR NAS1149CO832R)
5	5	5	5	MS21043-3	NUT
4	4	4	4	MS21043-6	NUT
1	1	1	1	MS21083C8	NUT
4	4	4	4	NAS1515H3L	WASHER

#71433

GENERAL NOTES:

- 1) MATERIAL: MAKE D4168-1/-2/-3/-4 FROM D2600-3 EXTRUSION (INITIAL LENGTH = 120.0).
- 2) FINISH:
CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 PRIOR TO INSTALLING D2739 WEB.
POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED TO 1.0 ABOVE SKIDTUBE CENTER-LINE PER DART 005 4.4 (OPTIONAL).
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: D4168-041/-042/-043/-044 = 32.3 LBS
- 8) WELD PER DART QSI 004
- 9) FINAL CONFIGURATION SHOULD HAVE THE FOLLOWING MINIMUM MECHANICAL PROPERTIES:
MINIMUM YIELD TENSILE STRENGTH = 35 KSI
MINIMUM ULTIMATE TENSILE STRENGTH = 38 KSI
- 10) COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF
POWDER COATING WITH MEK DEGREASER.
- 11) SPACER AND PLUG INSTALLED SAME AS SECTION AJ-AJ EXCEPT HORIZONTAL
- 12) SPACER AND PLUG INSTALLED SAME AS SECTION AP-AP EXCEPT HORIZONTAL

RELEASED
2010-09-15

A		NEW ISSUE		SC	10.08.09
REV.	DESCRIPTION			BY	DATE
DESIGN	SC	DART AEROSPACE USA, INC.			
DRAWN	SC	PORT HADLOCK, WA			
CHECKED	SC	DRAWING NO.	REV. A		
MFG. APPR.		D4168	SHEET 1 OF 11		
APPROVED		TITLE	SCALE		
DE APPR.		350 SKIDTUBE ASSEMBLY	NTS		
DATE	10.08.09				
<small>COPYRIGHT © 2010 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSES OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>					

Dart Aerospace Ltd

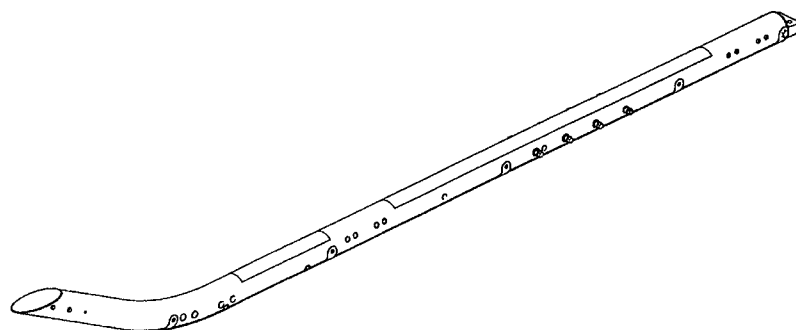
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR: Yes No** **DQA:** _____ **Date:** _____
Resolution: _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

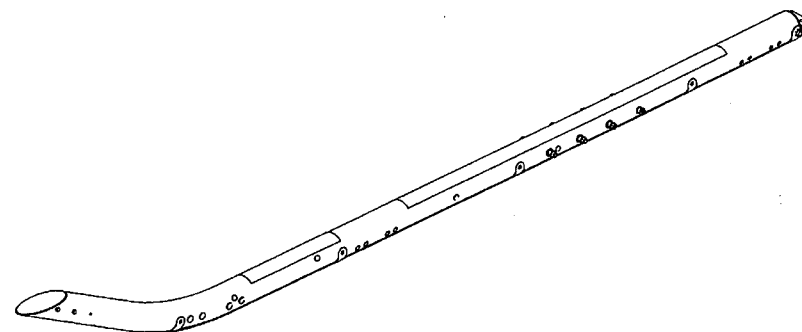
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

#71433



D4168-041 350 SKIDTUBE ASSEMBLY, LH



D4168-042 350 SKIDTUBE ASSEMBLY, RH

RELEASED
2010-09-15
JW

DESIGN	SC	DART AEROSPACE USA, INC.	
DRAWN	SC	PORT HADLOCK, WA	
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. A
MFG. APPR.	<i>[Signature]</i>	D4168	SHEET 2 OF 11
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	350 SKIDTUBE ASSEMBLY	NTS
DATE	10.08.09	<small>COPYRIGHT © 2010 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR TRANSMITTED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

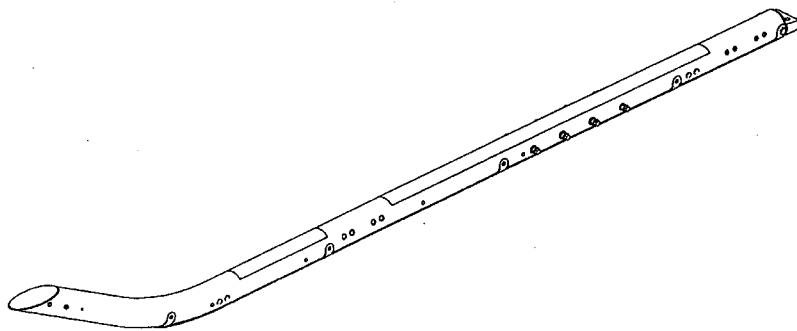
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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

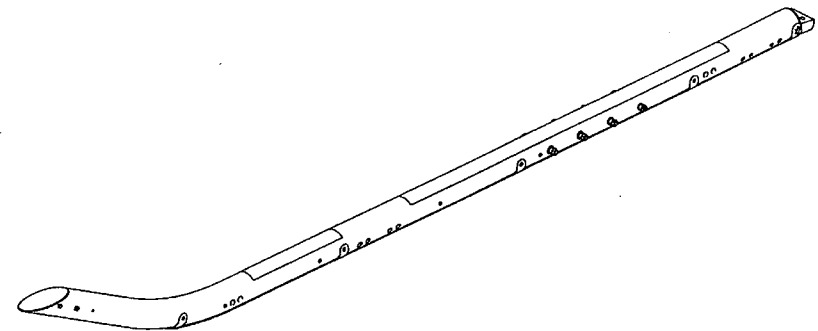
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

#71433



D4168-043 350 SKIDTUBE ASSEMBLY, LH



D4168-044 350 SKIDTUBE ASSEMBLY, RH

RELEASED
2010-09-15

DESIGN	SC	DART AEROSPACE USA, INC.	
DRAWN	SC	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. A
MFG. APPR.		D4168	SHEET 3 OF 11
APPROVED		TITLE	SCALE
DE APPR.		350 SKIDTUBE ASSEMBLY	NTS
DATE	10.08.09	<small>COPYRIGHT © 2010 BY DART AEROSPACE USA, INC.</small> <small>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

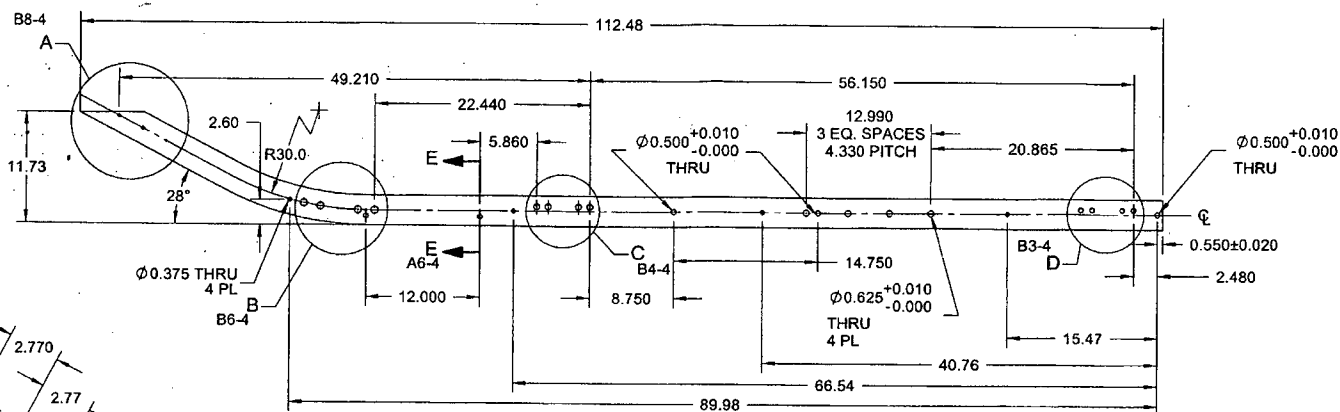
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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

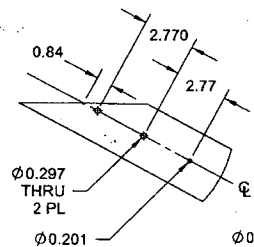
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

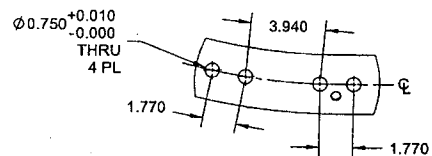
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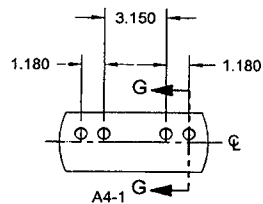
D4168-1 LH SKIDTUBE



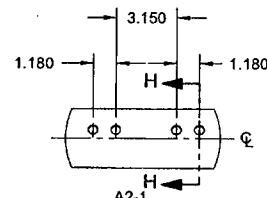
DETAIL A
SCALE 2X



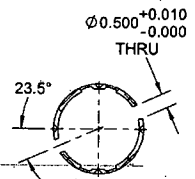
DETAIL B
SCALE 2X



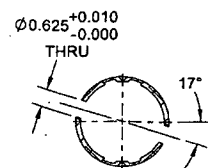
DETAIL C
SCALE 2X



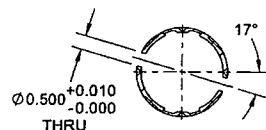
DETAIL D
SCALE 2X



SECTION E-E
SCALE 3X, 2 PL



SECTION G-G
SCALE 3X, 4 PL



SECTION H-H
SCALE 3X, 4 PL

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MFG. APPR.		D4168	SHEET 4 OF 11
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DE APPR.		350 SKIDTUBE ASSEMBLY	NTS
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8 7 6 5 4 3 2 1

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

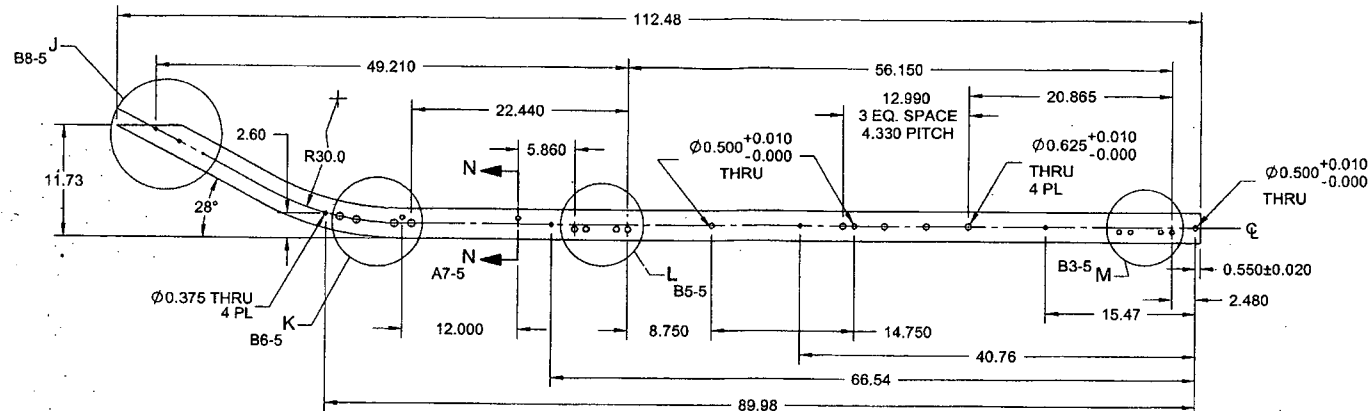
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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

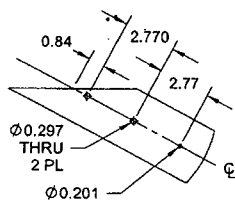
NOTE: Date & initial all entries

8 7 6 5 4 3 2 1

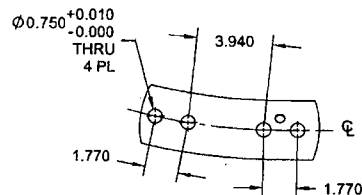


#71433

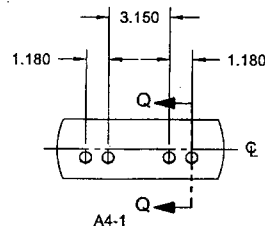
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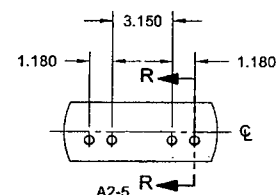
DETAIL J
SCALE 2X



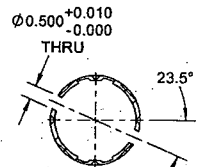
DETAIL K
SCALE 2X



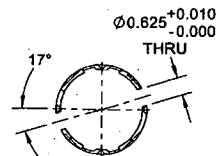
DETAIL L
SCALE 2X



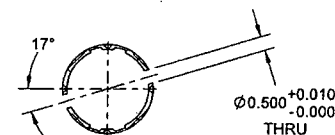
DETAIL M
SCALE 2X



SECTION N-N
SCALE 3X, 2 PL






SECTION Q-Q
SCALE 3X, 4 PL



SECTION R-R
SCALE 3X, 4 PL

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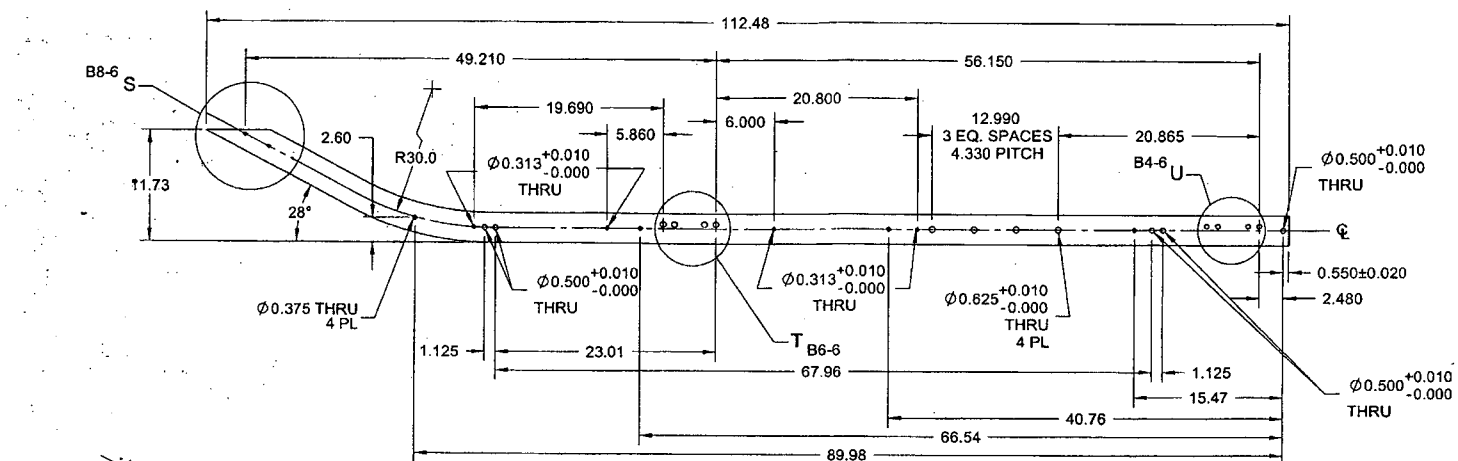
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

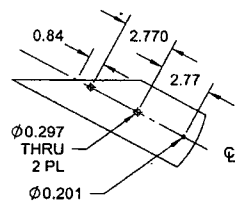
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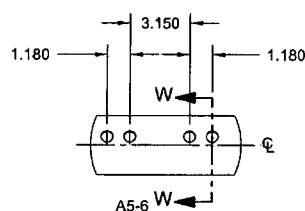
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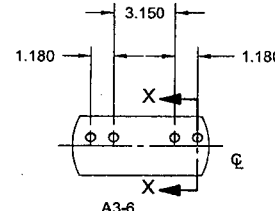
71433



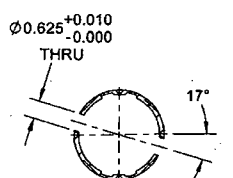
DETAIL S
D8-6
SCALE 2X



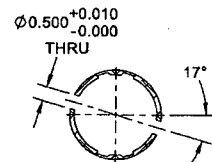
DETAIL T
C5-6
SCALE 2X



DETAIL U
D3-6
SCALE 2X



SECTION W-W
B6-6
SCALE 3X, 4 PL



SECTION X-X
B4-6
SCALE 3X, 4 PL

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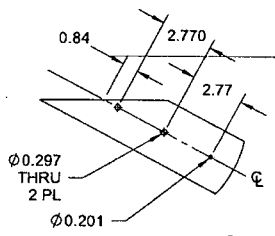
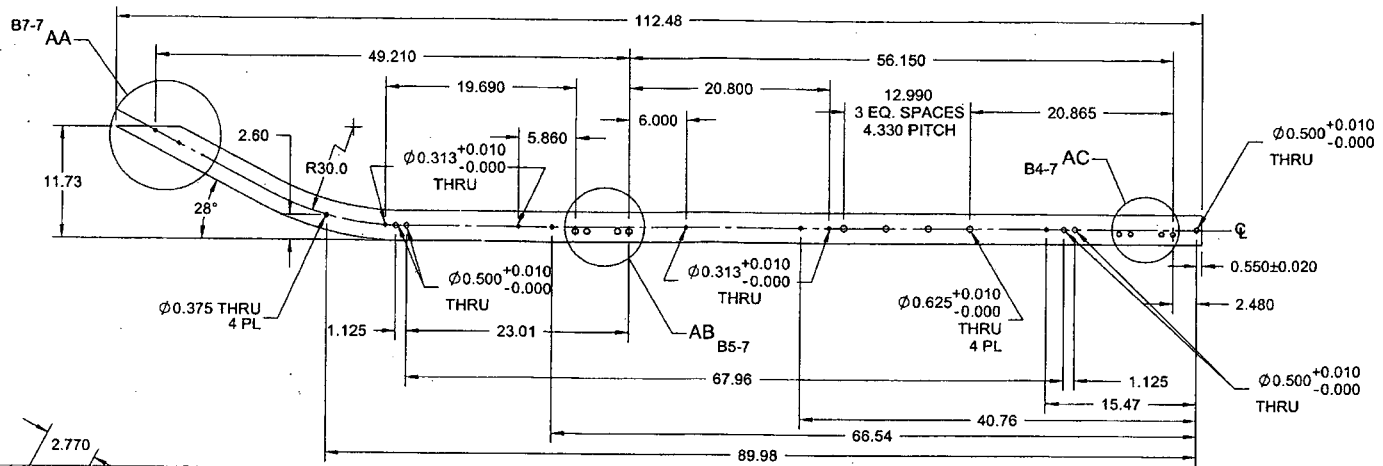
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

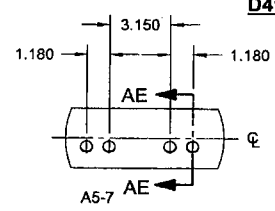
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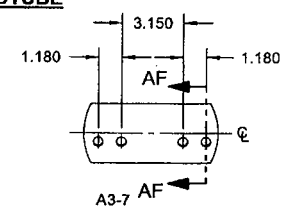
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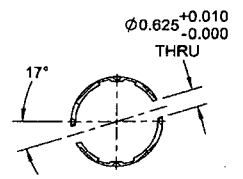
DETAIL AA
D7-7
SCALE 2X



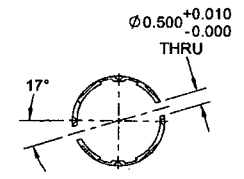
DETAIL AB
C4-7
SCALE 2X



DETAIL AC
D3-7
SCALE 2X



SECTION AE-AE
B6-7
SCALE 3X, 4 PL



SECTION AF-AF
B4-7
SCALE 3X, 4 PL

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2010-09-15

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Dart Aerospace Ltd

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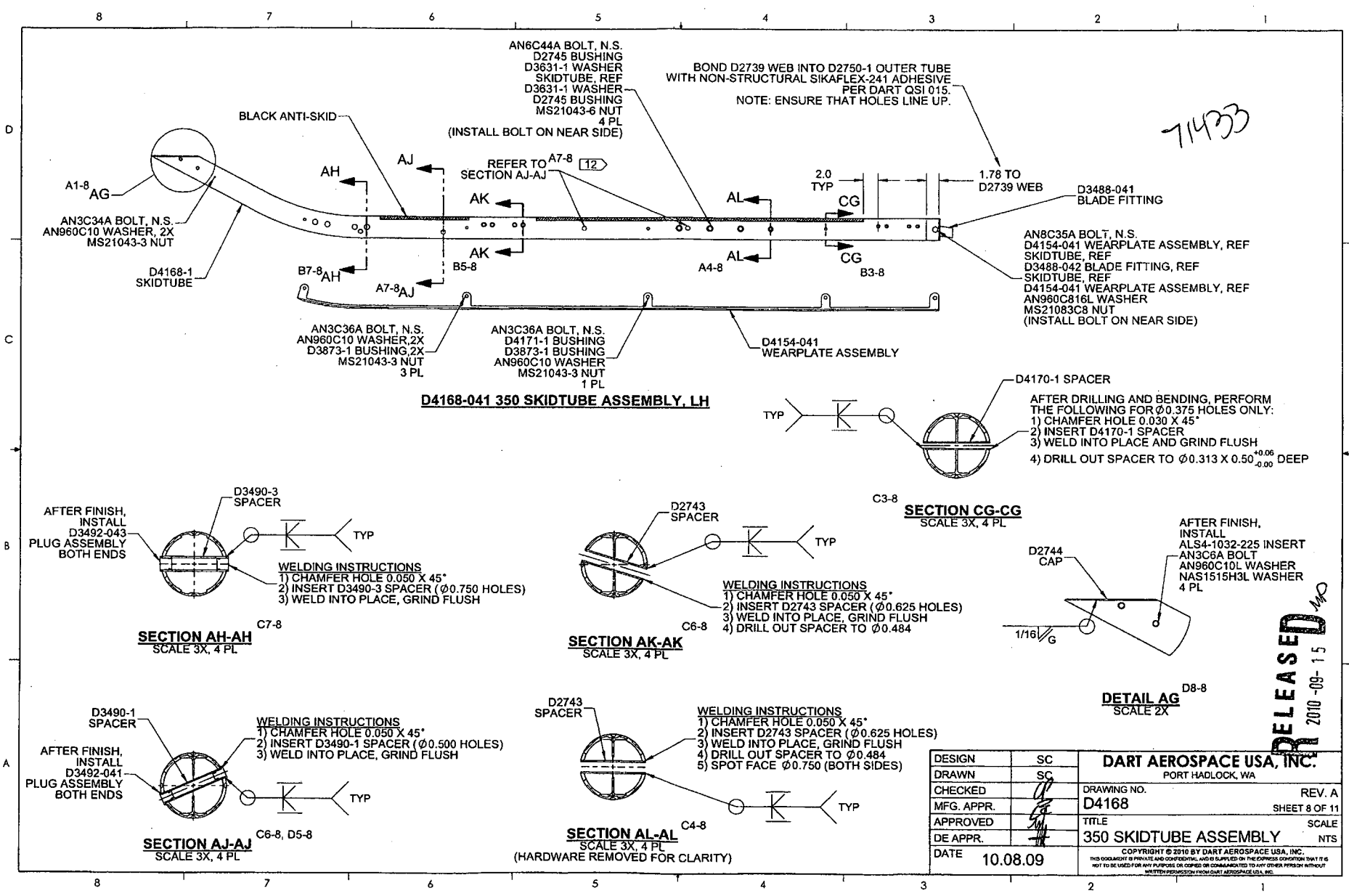
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NOTE: Date & initial all entries

71433



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2010-09-15

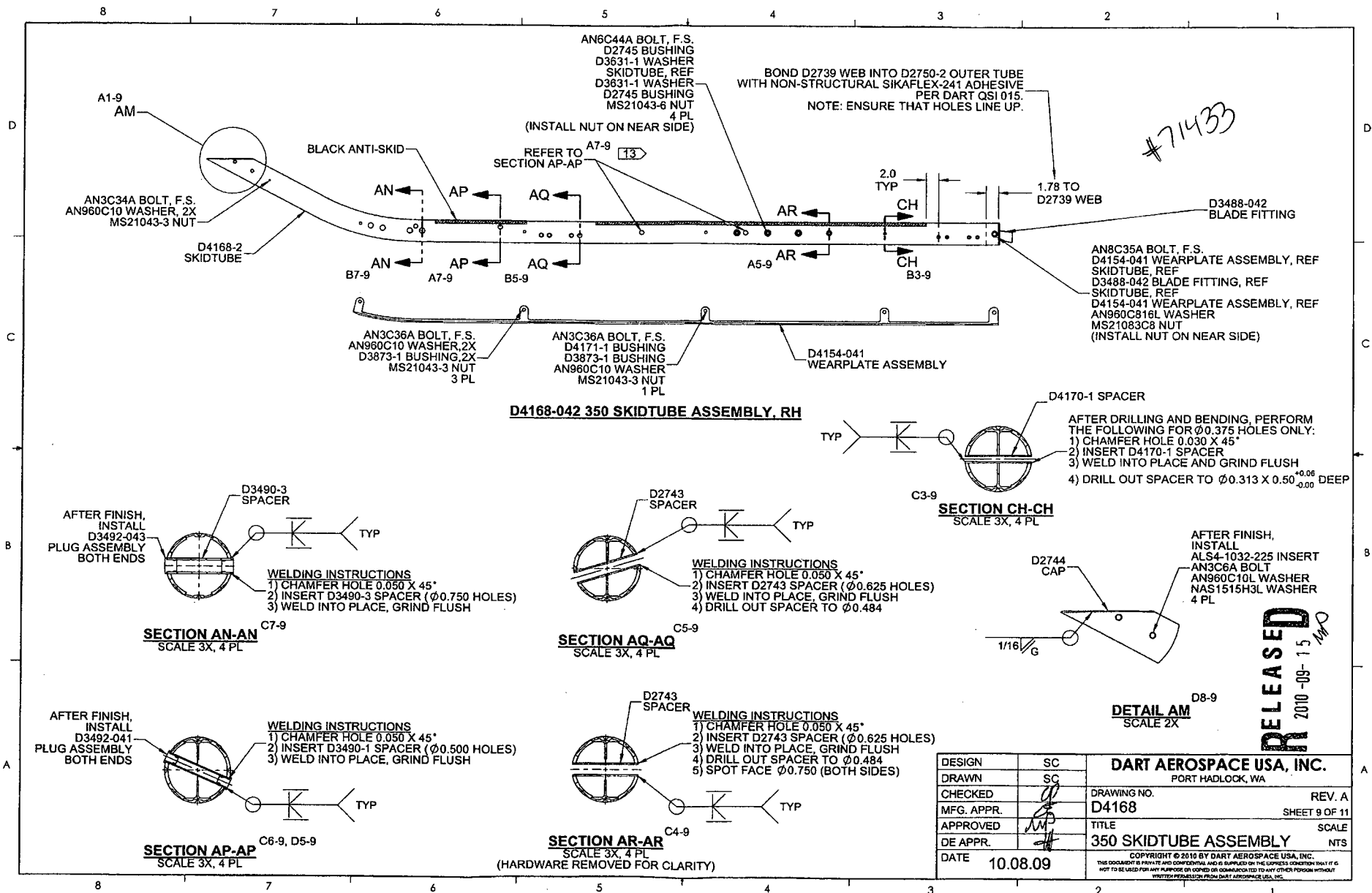
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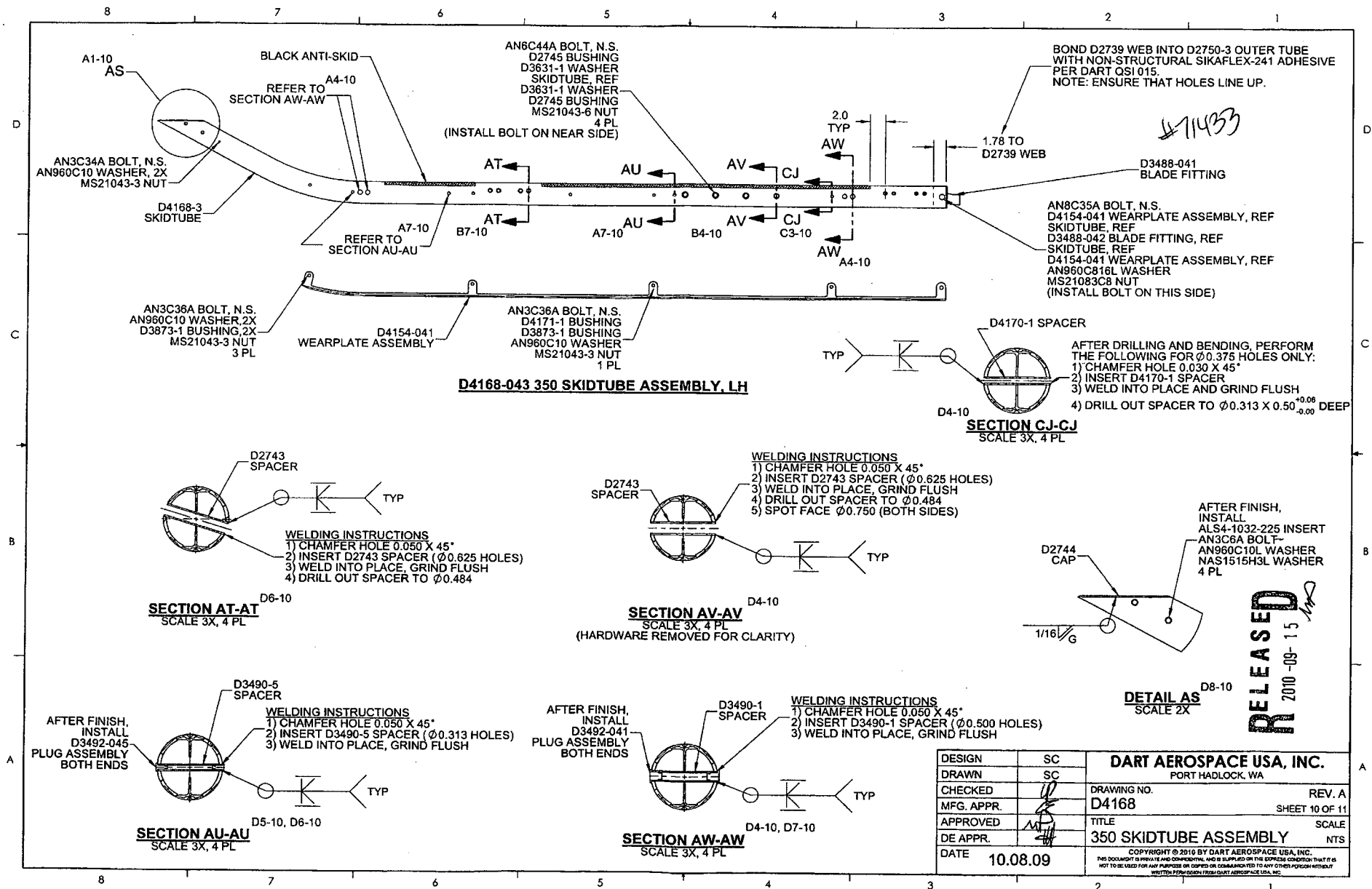
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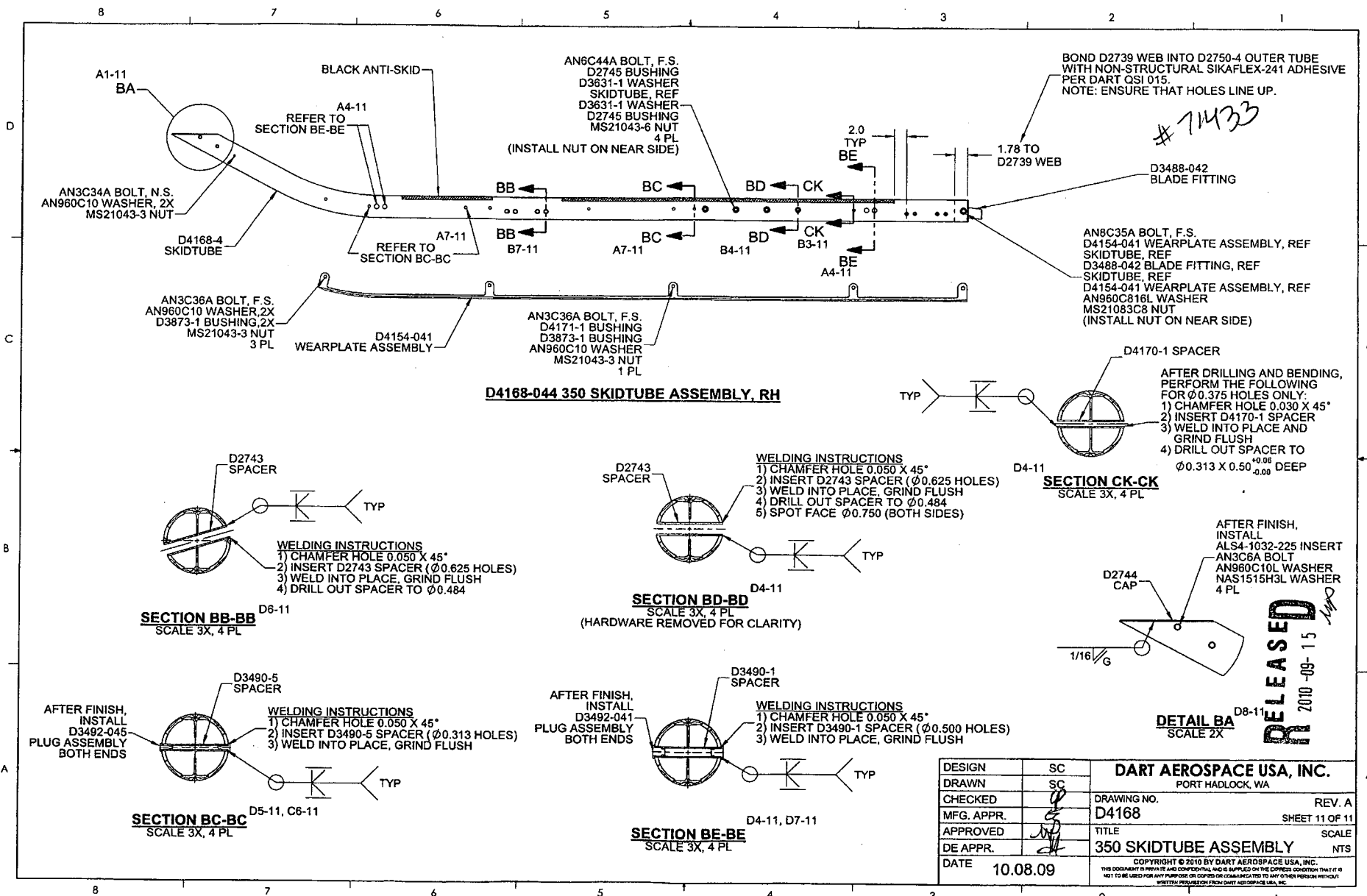
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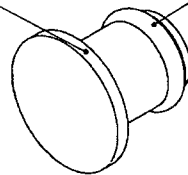
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

D3492-XX PLUG
(SEE TABLE)

NAS1611 O-RING
(SEE TABLE)



D3492-XXX PLUG PARTS LIST

QTY -041	QTY -043	QTY -045	QTY -047	QTY -049	QTY -051	QTY -053	PART NUMBER	DESCRIPTION
X							D3492-041	PLUG ASSEMBLY
	X						D3492-043	PLUG ASSEMBLY
		X					D3492-045	PLUG ASSEMBLY
			X				D3492-047	PLUG ASSEMBLY
				X			D3492-049	PLUG ASSEMBLY
					X		D3492-051	PLUG ASSEMBLY
						X	D3492-053	PLUG ASSEMBLY
1							D3492-1	PLUG
	1						D3492-3	PLUG
		1					D3492-5	PLUG
			1				D3492-7	PLUG
				1			D3492-9	PLUG
					1		D3492-11	PLUG
						1	D3492-13	PLUG
		1					NAS1611-005	O-RING
			1				NAS1611-007	O-RING
1							NAS1611-010	O-RING
						1	NAS1611-012	O-RING
	1						NAS1611-013	O-RING
					1		NAS1611-015	O-RING
				1			NAS1611-016	O-RING

NOTES:

1) O-RING: POSSIBLE SUPPLIER P/N: NAS1611-XXX OR PARKER 2-XXX

RELEASED
R 2011-05-30

D	INCORPORATED DEO D3492-C-1. SHT 2 DIM C FOR -1 WAS 0.055. (SEE CAR11-048)	AJS	11.05.24
C	ADD -049/-051/-053, CHANGE DRAWING FORMAT	PH	07.10.05
B	ADD -047; UPDATE DIM A FOR -045	PH	08.05.11
A	NEW ISSUE	PH	06.01.04
REV.	DESCRIPTION	BY	DATE
DESIGN	PH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AJS		
CHECKED	A	DRAWING NO.	REV. D
MFG. APPR.	J.F.R.	D3492	SHEET 1 OF 2
APPROVED	AJS	TITLE	SCALE
DE APPR.	AJS	PLUG	2:1
DATE	11.05.24	COPYRIGHT © 2007 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

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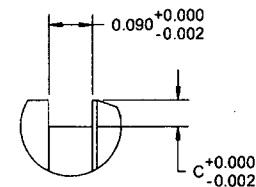
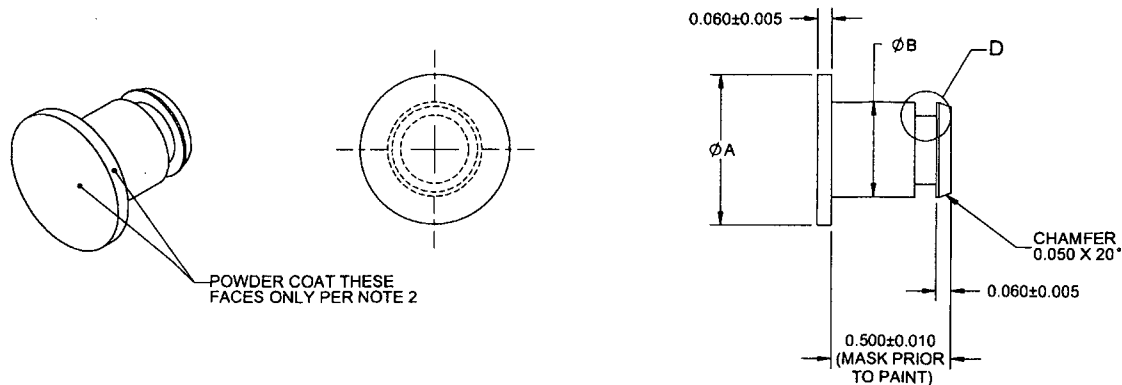
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NOTE: Date & initial all entries

8 7 6 5 4 3 2 1



DETAIL D

D3492-XX PLUG

D3492-XX PLUG MACHINING DETAILS

P/N	A	B	C	MATERIAL SPEC	
D3492-1	0.625	0.394	0.050	M6061T6R0.625	△
D3492-3	0.750	0.582	0.045	M6061T6R0.750	
D3492-5	0.375	0.188	0.045	M6061T6R0.375	
D3492-7	0.500	0.270	0.045	M6061T6R0.500	
D3492-9	0.938	0.750	0.045	M6061T6R1.000	
D3492-11	0.850	0.664	0.045	M6061T6R0.875	
D3492-13	0.750	0.510	0.045	M6061T6R0.750	△

NOTES:

- 1) MATERIAL: ALUMINUM 5052-H32 OR 6061-T6 OR 1100-0 PER QQ-A-225/7 (5052) OR QQ-A-225/8 (6061) OR QQ-A-200/8 (6061) OR QQ-A-225/1 (1100) (REF. DART MATERIAL SPEC M6061T6R0.000)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT WHITE GLOSS (4.3.5.1) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: N/A

RELEASED
2011-05-30

DESIGN	PH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
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CHECKED	B	DRAWING NO.	REV. D
MFG. APPR.	JES	D3492	SHEET 2 OF 2
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NOTE: Date & initial all entries

NO. 265

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Barclay Elliott
Job number: 714270
Part number: 350 636 015
Description: 350
Welding Process: Tig ☒ Mig ☐
Base material: Aluminum
Current: AC ☒ DC ☐

TEST REQUIREMENTS AND RESULTS

Visual: pass ☒ fail ☐
Penetration: pass ☒ fail ☐

UNACCEPTABLE

Cracks: pass ☒ fail ☐
Undercut: pass ☒ fail ☐
Pin holes: pass ☒ fail ☐
Overlap (cold lap): pass ☒ fail ☐
Porosity (surface): pass ☒ fail ☐
Coloration: pass ☒ fail ☐

Qualifier Sal Lopez Date of Test Coupon 11.09.06

Welder Barclay Elliott Date of Test Coupon 11.09.06

The above named individual is qualified in accordance with AWS D17.1.2001 to weld

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